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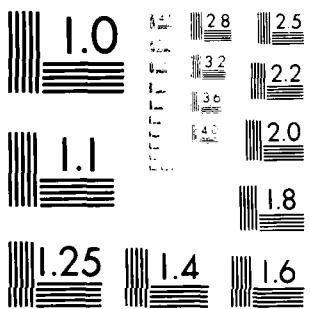
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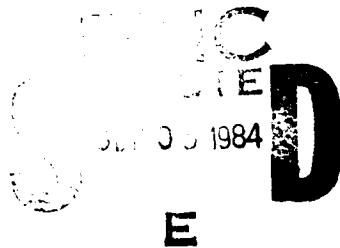
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EXPERIMENTAL STUDIES OF BARGAINING AS ANALOGUES OF CIVIL DISPUTES

James P. Kahan

November, 1983

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PREFACE

This paper summarizes a literature review conducted to ascertain what might be learned from the research on experimental bargaining with third party intervention to apply to legal arbitration in civil justice disputes. It should be of interest to persons concerned with legal arbitration and social psychological models of negotiation processes.

The review was partially supported by the Institute for Civil Justice and the Behavioral Sciences Department of The Rand Corporation. Thanks are accorded Deborah Hensler for a critical reading of an earlier draft.

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ABSTRACT

This paper reviews recent studies of experimental bargaining, largely conducted in social psychological laboratories, to obtain findings that might prove helpful to understanding the process of civil dispute resolution. Three research areas are surveyed: (1) the effect of third party interventions, (2) the effect of having representatives bargain in the stead of the central parties, and (3) the effect of negotiating multiple issues as packages. For each of these areas, the studies provide generalizations that suggest ways in which civil disputes might be more efficaciously settled.

INTRODUCTION

In this paper, we selectively review recent studies of experimental bargaining that might be of use in understanding how civil suits are resolved. Most civil suits are between two parties, are centered on economic issues, can involve representatives engaged to negotiate for the disputants and, if not resolved by the disputants, are subject to third party intervention of increasing control.¹ To the extent that social psychological bargaining experiments share some of these characteristics, they can provide ideas about the dispute resolution process that may be examined and refined in studies of the civil justice system.

The foregoing conceptualization of civil litigation leads to an examination of work in three areas of experimental bargaining. First, and obviously, the effects of various sorts of third party interventions are of interest. Social psychologists have examined the effects of third party interventions of differing types, looking at the effects of an anticipated intervention as well as the effects of actual interventions. Second are studies of negotiations performed by representatives of the central parties. There is a body of social psychological literature on the effects of having representatives vs. self-interested parties negotiate, as well as the effects of differing extents of accountability and surveillance of the representatives. Third are the effects of negotiating multiple issues instead of single issues. Rather than involving one commodity, disagreements are often characterized as being multi-dimensional. In such cases, settlement may be facilitated (or perhaps made harder) by the ability of each party to give in on a different issue. In this area, there is a small but consistent experimental literature.

¹A decision by a judge or jury is only the extreme case of third party intervention. Long before those resolutions, there can be negotiations between the disputants, negotiations by representatives of the disputants, voluntary mediation or arbitration (e.g., DeJong, Goolkasian, and McGillis, 1983) or mandatory pre-trial arbitration (e.g., Hensler, Lipson, and Rolph, 1981), all of these before pre-trial settlement conferences or a settlement during trial activated by judicial intervention.

There is a temptation to dismiss experimental bargaining studies as irrelevant to the study of civil disputes. Williams, England, Farmer, and Blumenthal (1976) found little within social psychology to directly aid their examination of effectiveness in legal negotiations; their article does, however, provide a directed review of comparative models of negotiation and of bargainer toughness. Aside from one major research program specifically addressed at legal disputes (Thibaut and Walker, 1975), it is the rare bargaining study that directly considers legal or quasi-legal contexts (e.g., Koch, Sodergren, and Campbell, 1976; Sheppard, 1983; Smith, 1969; Starke and Notz, 1981; Wall and Schiller, 1983). But bargaining is by definition critical to civil dispute resolution. Although a case in court is one in which the parties have not bargained to a settlement, the fact that the overwhelming majority of cases filed are settled out of court signifies the importance of negotiations.

Before proceeding to the survey of substantive points made in the experimental bargaining literature, a brief discursus on the definition of bargaining situations and the major experimental paradigms of bargaining laboratories is warranted.

BARGAINING FROM THE SOCIAL PSYCHOLOGICAL VIEWPOINT

Within the realm of experimental social psychology, the topic of bargaining and negotiation has occupied a steady, if not spectacular, place in the literature for the past 25 years. Recent reviews surveying the field include Kelley and Schenitzki (1972), Rubin and Brown (1975), Davis, Laughlin, and Komorita (1976), Druckman (1977), Pruitt and Kimmel (1977), Miller and Crandall (1980), and Pruitt (1981). Although the early growth of experimental bargaining within social psychology might be attributed to desires to generalize economic models to social interaction (e.g., Blau, 1964; Homans, 1961; Thibaut and Kelley, 1959), more recent work focuses on more purely pecuniary matters. Indeed, some of what is called social psychological research is now being conducted by economists and political scientists, and work produced under the aegis of all three disciplines has appeared under the term "experimental economics" (e.g., Sauermann, 1978a, 1978b; Tietz, 1983).

Rubin and Brown (1975) establish four necessary conditions to a bargaining situation as: (1) that there be two or more actors; (2) that the situation be *mixed-motive*, i.e., that although it is impossible for both parties to simultaneously obtain their most preferred outcomes, there are incentives for the parties to work in harmony; (3) that the essence of the interaction be the division or exchange of resources; and (4) that there be *negotiations*, or presentations of demands, counterproposals, etc. Other authors largely follow this definition, with some (e.g., Morley and Stephenson, 1977; Young, 1972) emphasizing that the situation is one of joint decisionmaking, with the parties having joint strategies available to them. Morley and Stephenson (1977) further define negotiation as being all forms of discussion about the issues which divide the parties, and include as a necessary component of the bargaining situation that the parties must at some point implicitly or explicitly consider the rules of their own relationship; that is, in addition to the issues themselves, the rules of how disagreements may or may not be resolved are part of the negotiations.

The dependent measures of bargaining studies are typically whether or not an agreement was reached (if actual bargainers are used), whether or not a joint maximum payoff was achieved, and (if one of the bargainers is an experimental confederate), how much the bargainer conceded. These outcomes are often thought of in terms of the "hardness" vs. "softness" of the bargainers. However, Cosier and Ruble (1981) demonstrated that two separate dimensions, assertiveness and cooperativeness, may be used to characterize bargaining strategy. "Hardness" is seen as assertive and noncooperative (competitive), while "softness" is nonassertive and cooperative (accommodative). But, the other two combinations of assertive and cooperative (collaborative) and nonassertive and noncooperative (avoiding) are needed to complete the picture.

Rubin and Brown (1975) identify a small number of experimental paradigms that account for the major part of experimental work on bargaining and negotiation. These are (1) the Prisoner's Dilemma game, (2) the Acme-Bolt trucking game, (3) the Pachisi coalition formation game, and (4) the Bilateral Monopoly game.² The first three of these are

²While objections to Rubin and Brown's definitions of some of these

tangential to the study of civil disputes, as they often have restricted or no negotiations, have no real opportunity for third party decisions, and essentially reduce the behavior of the participants to choosing between unilateral or bilateral strategies. The Bilateral Monopoly game, on the other hand, has many elements in common with civil disputes and is the experimental paradigm employed in the majority of the studies to be reported; thus it is worthy of further attention.

Bilateral Monopoly Games

The Bilateral Monopoly game is a simulation of an economic market with two members, labeled Buyer and Seller, who must trade with each other in order to make a profit (Siegel and Fouraker, 1960). In the typical manifestation of the game, trading is done by deciding on a "price" and a "quantity" of the commodity being negotiated, and the profit to each player is given by a profit table such as Table 1. Each player knows his own profit table, and whether or not he knows that of the other player is a variable that may be experimentally manipulated. Note that in Table 1, (1) the Seller is interested in maximizing price, given any quantity, (2) the Buyer is interested in minimizing price, given any quantity, and (3) the sum of the two profits is a constant for any given quantity, but varies with quantities. Thus, the game has both concordant and conflictual motivations for the players, as they seek the optimal quantity while haggling over the price.

Given this basic experimental game, it is possible to vary such things as how much communication is allowed between the two bargainers, how much time pressure they are subjected to, how profit in the table is related to the real outcomes paid to the bargainers, whether negotiations are direct or through representatives, whether third parties may intervene, and if so, in what manner, and how many commodities are being simultaneously negotiated and whether these are done serially or as a single package. Indeed, the literature on the Bilateral Monopoly game consists of the effects of such manipulations together with the effects of using different types (e.g., sex, race,

experimental paradigms could be made, and additional categories could be introduced, the breakdown is good enough for present purposes.

Table 1
PROFIT TABLES USED IN BARGAINING

Seller's Profit Table					Buyer's Profit Table				
Price	Quantity				Price	Quantity			
	8	9	10	11		8	9	10	11
240	1190	1350	1430	1430	240				
230	1120	1260	1320	1300	230				
220	1050	1170	1210	1170	220				
210	980	1080	1100	1040	210	50	0		
200	910	990	990	910	100	120	90	33	
190	840	900	880	780	190	190	180	143	91
180	770	810	770	650	180	260	270	253	221
170	700	710	660	520	170	330	360	363	351
160	630	630	550	390	160	400	450	473	481
150	560	540	440	260	150	470	540	583	611
140	490	450	330	130	140	540	630	693	741
130	420	360	220	0	130	610	720	803	871
120	350	270	110		120	680	810	913	1001
110	280	180	0		110	750	900	1023	1131
100	210	90			100	820	990	1133	1261

SOURCE: Kelley and Schenitzki (1972), as adapted from Siegel and Fouraker (1960).

nationality, personality, etc.) of bargainers.

A flavor of the variety of experiment conducted under the common rubric of Bilateral Monopoly can be gained by comparing the original Siegel and Fouraker (1960) experiment with a more recent study by Weber and Tietz (1978). In the earlier experiment, subjects were run en masse, with one room full of Buyers, one room full of Sellers, and various graduate assistants running back and forth between the two rooms, passing the written messages about price and quantity that served as communication between individual Buyers and Sellers. No player knew the identity of his opponent, players were unaware of each others' profit tables, and the task was presented in its abstract form rather than woven into a realistic covering study. The experimenters were able to collect data from many dyads rather economically.

Weber and Tietz (1978), on the other hand, had groups of three players play a simulated economy in which players took on the roles of labor negotiator, management negotiator, and Central Bank. Rather than profit tables, the players were given extensive computer outputs of the state of the economy. Rather than abstract issues, players negotiated wages, number of hours of work (and hence productivity), and terms of notice. The Central Bank served as an intervenor, had power over the economy (and hence both labor and management profits) through its ability to alter the discount rate, etc., and received outcomes itself that were a function of productivity. Rather than single sessions, subjects played through twelve weekly periods, in which the data presented for each week were in part a function of the group's decisions the previous week. Rather than anonymous bargaining, players discussed their own political and economic philosophies before beginning the game, and extensive sociometric data were collected throughout the study. Rather than collecting data from many groups, the experiment involved only 12 groups of players. Yet Weber and Tietz, as much as Siegel and Fouraker, conducted a Bilateral Monopoly experiment.

Although the Bilateral Monopoly paradigm seems designed for the economic sphere, with its labor/management or Buyer/Seller constructions, it is not without its concrete connections to litigation. In most civil litigation, parties face each other in pairs, and neither has an alternative negotiating opponent to turn to if satisfaction is unobtainable. The issues involved are substantive rather than abstract, and with some major exceptions such as child custody disputes, are typically expressed in or translated into money equivalents. Although settlement on the issues is a matter of pure conflict in that any concession of one party is a gain for the second, both parties have some common interest in settling and therefore avoiding or at least minimizing the costs of litigation.

THIRD PARTIES IN BILATERAL NEGOTIATIONS

Any examination of how third parties affect bilateral negotiations must begin by specifying how the third parties enter the situation (Rubin, 1983). It is clear that there are a variety of ways in which a third party can influence a dyad of bargainers, ranging from merely being present at the negotiations to interrupting the proceedings and forcibly mandating an outcome. Various authors (Fisher, 1972; Koch et al., 1976; Rubin and Brown, 1975; Thibaut and Walker, 1975; Van de Vliert, 1981; Walton, 1969; Young, 1972) have identified points on this continuum of third party intervention, from which it is possible to extract seven different ways in which third parties intervene

1. **Dyadic negotiation** (Koch et al, 1976). This is a "n-trol group" category in which no third party is present. Koch et al. differentiate this category from "coercive self-help," or *win*, your argument by physical force. Thibaut and Walker (1975) label this category "bargaining."

2. **Audience** (Rubin and Brown, 1975). Sometimes a third party may affect negotiations by merely being present while they are conducted, although not intervening, or perhaps not even speaking. Closely allied to this label is Koch et al.'s (1976) category of negotiation with community exerting pressure for a settlement. Here, the community acts as a generalized audience (see also McGrath's C-force, below).

3. **Conciliator** (Rubin and Brown, 1975). The third-party conciliator acts on the relationship between the opposing parties rather than on the issues themselves. This can be done either by helping the principals find new activities that alter their relationship, or by diagnostic insight and working through the relationship (Walton, 1969). Although conciliation has no formal place in legal argument, it is often the *de facto* intervention employed. Fisher (1972) and Walton liken the conciliator to the psychotherapist, and hope to improve relationships in industry and international affairs by judicious borrowing from therapeutic techniques. Pruitt (1981) terms conciliation "process mediation." Brett and Goldberg (1983) consider the benefits of a "mediator-advisor," who acts basically as a conciliator, but mediates if that function does not produce agreement.

4. **Mediator.** All students of third-party intervention recognize the importance of mediation, which is defined as the offering of possible resolutions, or the suggestion of means of resolution of the conflict. Mediation differs from conciliation in that the issues are directly addressed. However, the third party has no formal power to affect the outcome. Walton (1969) terms mediation helping the principals manage their manifest conflict, while Young (1972) refers to the mediation process as a partial transformation of the strategy space of the bargainers. Up until recently, most authors implicitly, and Walton and Young explicitly, assumed that the mediator must be impartial; that is, must *intend* not to favor either party. But recent thinking (e.g., Kochan, 1981; Pruitt, 1981a, b) suggests that the importance of impartiality *in mediation* (as opposed to stronger interventions) may be overemphasized.

5. **Moot** (Thibaut and Walker, 1975). The moot third party acts midway between a mediator and an arbitrator. After the opposing parties have presented their positions to each other and to the third party, all three participants discuss the issues, and must reach a consensus on a settlement. Unlike the mediation process, moot gives the third party some real power, but unlike arbitration, the two opposing parties do not surrender their own power to veto any proposed settlement. The 1979 Camp David negotiations, with President Carter acting as third party to Begin and Sadat, provide a paradigmatic example of a moot.

6. **Arbitrator.** The arbitrator directly resolves the issue in dispute (Walton, 1969) by imposing a settlement after having heard both parties present their final bargaining positions (Thibaut and Walker, 1975). Koch et al. (1976) refer to this procedure as an authoritative settlement, but do not distinguish it from an autocratic procedure, as presented below. Young (1972) distinguishes arbitration from judicial or dictated settlements. Bigoness (1976a, 1976b) further draws the distinction between voluntary arbitration, where the parties willingly submit their irreconcilable differences to arbitration, and compulsory arbitration, where the arbitration is forced upon the bargainers. The forced, yet not completely binding arbitration used in the California civil dispute system (Hensler, et al., 1981) is difficult to categorize

by this scheme, falling between moot and arbitration, because there is an appeals procedure from the arbitrator's judgment that begins the resolution process anew, albeit at a potential cost to the appellant. An important distinction between forms of arbitration is between conventional arbitration (CA) on the one hand and final offer arbitration (FOA) on the other. In CA, the arbitrator imposes his judgment of a fair settlement on the parties, while in FOA, the arbitrator receives the final offers of each party and must choose one or the other offer. When multiple issues are being negotiated, variations in FOA may permit the arbitrator to pick and choose among the parties' positions on each issue (FOA-I) or require him to select one or the other complete package (FOA-P).

7. **Autocrat** (Thibaut and Walker, 1975). In the autocratic conflict resolution procedure, the third party mandates a settlement, from which the parties have no appeal. For Thibaut and Walker, the important distinction between an arbitrator and an autocrat is that the latter need not heed the arguments of the conflicting parties before deciding, while the former does. This parallel's Young's (1972) distinction between binding arbitration and judicial or governmental settlement backed by force. Koch et al. (1976) refer to authoritative resolutions, and Walton (1969) might be indirectly referring to autocracy when he cites intervention by reducing the conflict potential between the parties. Certainly, once the autocrat has mandated, there no longer exists any issue to be settled, and any remaining conflict belongs to the interpersonal sphere.

In the survey that follows, we shall examine both within-type of intervention studies and comparisons across types of interventions. These studies have looked at both the actual effects of the type of intervention, and the effects anticipating intervention have on the process of the dyadic bargaining.

Audience

First, it is clear that the mere presence of a third party as an audience may have an effect on the bargaining between the opposing parties. Wells (1967) had subjects play a bilateral monopoly international trade simulation either with or without a third party who

merely observed the proceedings. Wells noted that with the third party present, there was a preponderance of "weak" unsanctioned agreements between the bargainers, as though the third party served, in effect, to ratify the contract. When no third party was present, agreements were "strong" and included specific penalties for violation of the terms of the deal. Additionally, the mere presence of the third party led to adherence to the contract. It thus appears that a neutral observer, by merely acting as a witness, somehow binds negotiators to their own expressed commitments.

A study by Meeker and Shure (1969) affirms this finding. In a computer-controlled "pacifist game" in which players were given the opportunity to exploit a pacifist other subjects anticipating being observed by a silent third party planned to be nonexploitative more than did subjects in a control group. Belliveau and Stolte (1977) also examined the effect of a completely silent audience, compared to a "concerned" audience (a mediator), and a third party who took the side of one of the bargainers. The task was a bilateral monopoly simulated economy in which bargainers could exchange goods. Contrary to hypothesis, there were no differences in number of exchange agreements depending on the third party, although the "concerned" audience created more communication between the negotiators than did the other two conditions. These results could well be attributable to the subjects being junior high and high school students, who may not have understood the task.

A nonexperimental comparison of third party intervention is an anthropological comparison of methods of conflict management by Koch et al. (1976), who utilized a standard cross-cultural sample of pre-industrial societies to examine the relationship of style of conflict resolution to level of political integration.³ They found that dyadic bargaining was the predominant mode of conflict management in societies characterized by low levels of political integration (i.e., having weak government and informal means of succession to political office), while societies with higher levels of integration employed

³The anthropologically-inclined reader is further referred to Nader and Todd (1978), a volume detailing the disputing process in ten societies.

various forms of third party intervention. While the study, based as it is on pre-industrial societies, does not directly contain implications for conflict resolution in industrial societies, it is interesting to note that in the less-integrated societies, the very concept of weak third-party intervention, such as mediation or conciliation, is not manifest. While one would not expect formal third party interventions in a loosely-structured society, one might expect informal ones; Koch et al. (1976) hint that the very concept of disinterested intervention as a society-wide strategy may require a certain degree of integration.

Conciliation

Although conciliation occupies a large role in discussions of applications of negotiation theory (e.g., Walton and McKersie, 1969; Pruitt, 1981), there is a paucity of experimental research on this mode of dispute resolution. This is because conciliation largely deals with the processes of the on-going relationship between the bargainers, and in experimental bargaining, the negotiating dyad is almost always artificially constructed for the task at hand and has neither a past nor a future. Some bargaining studies (e.g., Albers, 1978, Selten and Schuster, 1968) have gone to lengths to make the personalities, attitudes, etc. of the bargainers known to each other, and therefore their interpersonal process relevant, but these studies have not employed intervening third parties.

Bartunek, Benton, and Keys (1975) examined what is in effect mediation vs. conciliation vs. audience interventions. Their third party was instructed to intervene either on the content level (by making a suggestion of a reasonable settlement), on the process level (by teaching the bargainers how to paraphrase arguments), or on a passive level (by suggesting a coffee break). The task was a management/labor dispute clothed as a school board negotiation over the three issues of class size, clerical work, and extra-classroom duties. A further experimental manipulation put the negotiators' job in jeopardy or not (high vs. low accountability) depending on success in negotiations. On a number of effectiveness measures (e.g., number of agreements, joint profit, speed of negotiations), the audience proved the least effective intervention. When negotiators were accountable, mediation produced

better results than conciliation, but the two groups were not different when negotiators were not accountable for their own outcomes (a reversal had been predicted). Although the conciliation condition is one that has often been advocated as highly effective (Walton, 1969), it is not surprising that its effects were so weak, given the ad hoc nature of the bargaining pair.

Touzard (1967, 1976) also examined mediation vs. conciliation. His first study (Touzard, 1967) compared "formal" versus "informal" negotiation tasks, where formality was designed as the degree to which negotiators had well-defined positions to support. In the formal tasks, mediation appeared to work less well than conciliation, while the reverse held true in the informal tasks. One is tempted to view these results as a function of the clarity of the task when negotiators are unsure about what positions they have, an intervention that suggests a clarification of position might be helpful, while when negotiators have well-entrenched positions, the "group-centered" conciliation strategy might work best. It is worth noting that the negotiation task itself was not a bilateral monopoly, but a looser-structured task in which resolutions that altered the whole perspective of negotiations were possible. In a later study (Touzard, 1976), negotiators discussed tasks on specific points related to conditions of prison life, either in an ideological or a technical set. It was found that mediation was more helpful in the ideological set, while conciliation was more helpful in the technical set. Again, these results make sense on the surface level; when disagreements are technical, some attention to the process among the disputants can ameliorate conditions, while when disagreements are ideological, attention to the rational aspects may have some value. In both cases, the strategy of attacking the less-entrenched of the rational and socio-emotional problems facing the group appears to have been successful. Interestingly, the group itself reported that its difficulties were those which the intervenor addressed; i.e., mediation groups reported task-related problems and conciliation groups reported interpersonal relations-related problems.

Mediation

Mediation has long been the most popular form of third party intervention, in applied practice as well as in the experimental laboratory. However, as Wall (1981, p. 157) cogently comments, "Despite its variety, longevity, and seeming ubiquity, mediation remains understudied, less than understood, and unrefined." Wall attributes these deficiencies to a failure to analyze the mediation process, to a lack of a comprehensive organization of the mediation literature, and to an absence of systematic research strategies to study mediation.⁴

This qualification made, we have begun to have a sense of how mediation works. Kolb (1983) observed ten state and federal mediators on 16 cases, and categorized their strategies and tactics. Wall and Schiller (1983) examined mediation behavior practiced by judges in their efforts to produce settlement and avoid trials. Lawyers described techniques used by the judges, after which a survey of lawyers and judges rated the effectiveness of the techniques. The findings of this pilot study are less important than the initiation of the effort to study judicial mediation.

Early experimental studies of mediation tested whether concessions were facilitated by the third party. Stevens (1963) identified the "bargainer's dilemma" as wanting to make concessions so as to conclude a mutually beneficial agreement yet not wanting to look weak by conceding. Mediators resolved the dilemma by making the concessions themselves. This line of research is perhaps best illustrated by Podell and Knapp (1969) who simulated labor and management negotiations on two wage issues. One of the bargainers was an experimenter's stooge following a preprogrammed strategy that forced a deadlock. At this juncture, a concession was proposed, either by the opponent himself or by the experimenter acting as a friendly mediator. It was found that when the opponent made the concession, he was regarded as weak and the subject

⁴To make a decent attempt at surveying the literature on mediation, one would have to examine publications in the fields of political science, international relations, economics, operations research, and psychotherapy, in addition to the more obvious targets of social psychology, industrial psychology, organizational sociology, and labor relations.

increased his expectation of gain; when the experimenter suggested the concession, neither phenomenon resulted.

Pruitt and Johnson (1970), in a similar experiment, showed that the suggestion by a mediator of a point of settlement halfway between the positions of the negotiators produced concessions from both sides. Follow-up questionnaires affirmed that intervention by the mediator relieved the subjective feeling that making concessions conveyed weakness. Pruitt (1971) further elaborated that the mediator, acting as a communication channel, helps in establishing a norm of "truth in signalling" that is reminiscent of Wells' (1967) "gentlemen's agreement" that was obtained in front of witnesses. It appears that intermediaries can be used to establish the honesty of messages, as well as a willingness to move towards compromise without losing face (Brown, 1977; Rubin, 1981a).

Vidmar (1971) compared the relative effectiveness of mediation and dyadic bargaining in a task that was posed either as a negotiation or a discussion to consensus. The task was to determine whether the main purpose of a university was to provide a liberal education or to train students for careers, and the groups were so composed so that one participant was from each end of the continuum, with the mediator, if any, having an inherent position between the two bargainers. Vidmar concluded that mediation was of considerable assistance for the negotiation groups (which he termed as having high role representativeness), but had little or perhaps a negative effect in the discussion groups.

Hiltrop and Rubin (1982) further examined the limits of mediation. In a 4-issue bilateral monopoly game, they manipulated the degree of conflict of interest in the bargaining and the mode of third party intervention. Anticipation of third party intervention moved negotiators closer to agreement in low conflict of interest, but kept them further apart in high conflict of interest. After a third party intervention, the interaction was replaced by a main effect for intervenor effectiveness, with the two forms of mediation each more effective in moving the negotiators towards agreement than nonintervention. The authors caution that the anticipation of intervention might inhibit negotiations just when they are most needed, and recommend direct intervention without notice in such instances.

Johnson and Pruitt (1972) compared directly the effectiveness of mediation vs. arbitration in a bilateral monopoly labor/management simulation in which wages and hospitalization were negotiated. In addition to whether the intervenor's suggestions were binding on the parties, Johnson and Pruitt varied on whether the third party was informed as to the issues or uninformed. Their main finding was unanticipated; subjects playing a management role behaved according to expectation, conceding more when arbitrators were present and when intervenors were informed ones, but this difference was not found for subjects in the labor role. Questionnaire results further found that concessions in the arbitration condition were made in order to avoid the intervention by the third party, a finding we shall explore in more detail shortly. In general, the bindingness manipulation (mediation vs. arbitration) was more powerful than the information one, indicating that it is the nature of the intervention rather than the expertise of the intervenor that causes bargainers to resolve their differences.

Moot

One study reports the effectiveness of a moot intervenor. Weber and Tietz (1978), in a complicated economic system simulation outlined earlier, found that the influence of the third party was higher when he was perceived as a tougher negotiator (as assessed by pre-experimental questionnaires) than either of the other parties. Their measures of this influence included the third party's accuracy in predicting the outcome (on the hypothesis that he partially controlled it), on the ability of the system to avoid breakdowns, and on the extent to which the third party got the two opposing sides to positions outside the original range of their negotiations. These findings are particularly impressive because of the extensive work in constructing the experiment, particularly in realizing that the third party does have interests of his own in having the others agree. The weakness, of course, is the limited sample size (12 triads) commented upon earlier.

Arbitration

Studies of arbitration have been appearing with increasing frequency, largely comparing arbitration to other forms of third party intervention or comparing different forms of arbitration to each other. Although arbitration is a very frequently employed form of third party intervention in disputes, it is sometimes viewed as less than satisfactory because it removes control of the outcome of a dispute from the centrally concerned parties and because what the arbitrator considers a "fair" resolution might differ from that of either of the disputants. Additionally, there is a concern that the anticipation of arbitration might introduce a "chilling" effect on the negotiations. Because arbitrators have a strong bias in favor of a "split-the-difference" in disputes,⁵ negotiators anticipating arbitration would hesitate to make concessions, because the concession would move the median point in the bargaining range away from their preference.

The problem of loss of control to an arbitrator is illustrated in a study by Haggard and Mentschikoff (1977) who constructed a violation of contract case and presented it to 20 three-man arbitration panels selected from the membership rolls of the American Arbitration Association. The 20 panels differed in their relative composition of brokers (presumed by the nature of the case to be pro-defendant) and manufacturers (presumed to be pro-plaintiff). As anticipated, the greater the proportion of manufacturers on the three-man panel, the more likely the panel was to find in favor of the plaintiff, and the greater the amount of the award. The immediate implication of this finding is both obvious and important: your outcome depends on who arbitrates.

The "chilling" effect of arbitration has been consistently demonstrated. Johnson and Tuller (1972) investigated four forms of third party intervention: dyadic bargaining, mediation, conventional

⁵This author can speak to the bias from personal experience. A few years ago, I was sued in small-claims court on unreasonable grounds. Following consistent advice from attorney-friends, I countersued, solely so that the "split-the-difference" point for the judge would be disallowing both claims instead of a settlement at a fraction of their claim. The strategy worked.

arbitration (CA), and final-offer arbitration (FOA). The subjects were induced to either have a high or low need to save face. Results showed that when the need to save face was high, agreement was closest for bargainers not anticipating intervention, followed by mediation, CA, and FOA. On the other hand, under the low face-saving manipulation, people facing some form of arbitration avoided it by reaching agreement, while those anticipating mediation were furthest from agreement. These findings imply that bargainers faced by difficult bargaining situations are hindered by the threat of arbitration.

Bigoness (1976a) further explored this line of research in a labor/management simulation in which four types of third party intervention were employed: dyadic bargaining, mediation, voluntary CA (in which the parties could choose to submit their negotiations to binding arbitration), and mandatory CA (in which arbitration was foisted upon the bargainers if they did not come to an agreement. In addition, both labor and management were provided with either "soft" or "tough" beginning positions from which to negotiate. Three topics were at issue: wages, fringe benefits, and cost of living clauses. Although Bigoness predicted that increasing promise (threat?) of third party interaction would lead to an increasing proportion of pre-intervention settlements, his hypothesis was not confirmed; dyads bargaining alone and those facing mandatory arbitration had approximately 50 percent settlement, with voluntary arbitration dyads having about 33 percent settlements, and finally dyads facing mediation having only 10 percent settlements. These findings must be qualified by the soft-tough manipulation; groups facing low conflict of interest (two "soft" offers) had a pattern more in line with Bigoness' hypothesis, while groups in high conflict (two "tough" offers) actually did better without the threat of intervention.

Bigoness (1976b) followed up his original study with one that replicated the four styles of third party intervention but, instead of manipulating conflict, selected the bargainers to be either similar or dissimilar on an internal vs. external locus of control measure. That is, he had dyads of either two "internals," two "externals," or one of each type. He found that external vs. external dyads had more amicable bargaining leading to more satisfactory conclusions than other groups.

More to our direct interest, he largely replicated his previous results, but added the finding that subjects anticipating voluntary arbitration began with higher aspirations and were more demanding than subjects facing other types of third party intervention. One possible explanation for this finding is that voluntary arbitration may induce a bargainer to gamble on a tough strategy in the hopes that the other will capitulate. If this fails, then an appeal to the arbitrator can be an equitable-sounding fall-back position ("If you don't like my offer, why don't we see what the arbitrator thinks of it?") This gamesman-like approach loses its attractiveness if the third party is a mediator, in which case the other isn't threatened by the intervention, or if arbitration is mandated, in which case the threat is not exercisable.

Breugh, Klimoski, and Shapiro (1980) compared negotiations anticipating mediation or CA. Bargainers facing CA took more time reaching agreement, used more bargaining dyads, and had more deadlocks than bargainers facing mediation. Hiltrop (1982) further demonstrated that arbitration chilled bargaining compared to mediation, in terms of concessions made and the number of disputes settled, particularly when bargainers were fully aware of each others' pay off structures.

The comparison between FOA and CA has come to recent prominence. FOA was originally proposed to counter the chilling effect of arbitration. In FOA, instead of trying to move an arbitrator's "split-the-difference" point in one's favor, a bargainer instead tries to construct a final offer that is nearer the arbitrator's "ideal" point of fairness than the other party's. Indeed, one could envision a convergence of offers to a median point, such that the arbitrator's actual services might not be needed (e.g., Chelius and Dworkin, 1980). This vision unfortunately has been clouded over by theoretical analyses (e.g., Brams and Merrill, 1983; Chatterjee, 1981; Crawford, 1982) that use game theoretic and economic models to demonstrate that equilibrium strategies for FOA do not converge to an agreement point. Indeed, under some circumstances, a rational analysis of FOA mandates a chilly negotiation strategy.

The empirical story is, however, quite different from the theoretical one. Several studies have found FOA to be superior to CA. Subbarao (1978) employed a labor/management simulation in which four

different types of arbitration rules were employed to test the effectiveness of each in averting negotiation deadlocks. The four types were: (1) FOA-P, where the arbitrator selected one or the other of the bargainers' final packages; (2) FOA-I, or issue-by-issue FOA; (3) CA, with the arbitrator not constrained; and (4) CA, with the arbitrator constrained to choose between the limits posed by the bargainers' final stances on each issue. Subbarao analyzed these arbitration rules in terms of the expected uncertainty and threat faced by the bargainers. For instance, FOA-P has a high threat potential, since there is a distinct probability that the bargainer will lose all of the argument. On the other hand, constrained CA has a low uncertainty, since the most likely outcome is near the middle of the two positions. From this analysis, he hypothesized that increasing the potential disruptiveness of the arbitrator, in the order (1), (3), (2), (4), would force bargainers to agreement prior to arbitration; results confirmed this hypothesis. In general, Subbarao found that the more arbitrary the arbitrator might be, the greater the potential for the presence of arbitration to subvert the process of negotiation.

This finding that FOA mitigates the chilling effect of arbitration has been replicated several times (e.g., Gringsby and Rigoness, 1982; Notz and Starke, 1978; Starke and Notz, 1981). The Starke and Notz study also showed that a possible reason why FOA produces movement towards agreement is that the levels of aspiration of the bargainers are lowered. This reduction makes agreement easier (Kahan, 1968), and causes bargainers to have more realistic expectations of gains.

Bazerman and Neale (1982) support this reasoning in an FOA study in which it was shown that training to have a more realistic probability of the arbitrator accepting one's proposal leads to more pre-arbitration settlement. More realistic probability levels meant lower probability levels, which in turn meant a lower level of aspiration (in expected value) from the bargaining.

Third Party Interventions in Legal Disputes

Most of the experimental studies cited above employed labor-management disputes as the model for bargaining; only a few used variations that might be more analogous to civil disputes (e.g., Starke and Notz, 1981). The experimental program most closely tied to legal issues examination of preferences among third party interventions is that of Thibaut and Walker (1975), as illustrated by LaTour, Houlden, Walker, and Thibaut (1976a), who examined the relative preferences among autocratic decisionmaking, arbitration, a moot, mediation, and dyadic bargaining for a task that simulated industrial decisionmaking (but not bilateral negotiations). Subjects were not merely asked to rank order the types of interventions; instead, the study employed a two-step procedure. One group of subjects rated the five interventions on the extent that they permitted each of eight features:

- (1) opportunity for the parties to explain and support their choices,
- (2) degree of control the third party has,
- (3) degree of control the two parties in conflict have,
- (4) degree to which the bargaining process is pleasant,
- (5) degree of fairness in the procedure,
- (6) anticipated rapidity of negotiations,
- (7) likelihood of "correct" decision being made, and
- (8) certainty that the issue will be resolved.

A second group of subjects were presented with the prospect of having to resolve a dispute and were asked the extent to which they would desire each of the eight features listed above to be present in their negotiations with the other party. That is, they rated how much they wanted to explain and support their choices, how much control the third party should have, etc. The preferences for the eight features were transformed into preferences among interventions via a multi-dimensional scaling technique (explained in Appendices to both LaTour et al., 1976a, and Thibaut and Walker, 1975). Subjects were divided in a factorial design based on (1) whether or not there was time

pressure to reach a decision, (2) whether or not there was an external benchmark by which the accuracy of their decision could be judged, and (3) whether the outcomes to the participants were correlated positively or negatively.

The results of this experiment showed that while none of the five intervention methods was ideal in terms of the eight features assessed, on the average, arbitration was most preferred by the subjects, followed in order by the moot, mediation, autocratic, and dyadic bargaining methods. The reason for the superiority of arbitration was that it matched preferences well in terms of time taken, correctness of the decision, opportunity for explanation, and pleasantness, while not being extreme on any of the remaining features. However, this overall finding requires some modification when the experimental factors are considered. Preference for more interventionist third party participation was increased (1) by exerting time pressure, (2) by providing the external standard, and (3) by making the outcomes to the two parties noncorrespondent. As the first and third of these conditions typically hold in legal disputes, the case for preference of arbitration in such instances is strengthened. Other evidence from Thibaut and Walker (1975), in which European inquisitorial and American adversary judicial systems were compared, further supports this conclusion.

Summary

How might we summarize this diverse set of studies? First, if the degree of control exercised by a third party is expressed as a continuum on the abscissa, the success of an anticipated third party intervention in inducing disputants to settle their differences appears to be described by an inverted U-shaped curve. As noted by Rubin (1980), when mediators are present (as opposed to dyadic bargaining), there is more rapid and effective conflict resolution than would otherwise occur, as players may entertain concessions without loss of face. Rubin and Brown (1975) add that the pressures towards agreement generated by the third parties may come from diverse sources, ranging from mere knowledge of their presence (audience effects), specific attributes of informedness or expertise, and from the specific interactions with the bargainers they engage in. Thomas (1976) further notes that mediators can

de-escalate conflicts, reopen communications, clarify issues, and even produce confrontation when appropriate. Walton (1969) emphasizes this last contribution of mediators, pointing out that it is important that bargaining differentiation should take place, as the parties are aware of their areas of coordination and conflict. However, as the degree of third party control increases, there is a chilling effect on negotiations, as bargainers prepare their stances for the intervenor rather than attempting in good faith to resolve the dispute and as bargainers feel discomfort at their loss of control over the situation. FOA, in which an arbitrator's control of the outcome is severely constrained, mitigates the chilling effect. Although a "rational" analysis of FOA does not support this mitigation, other features of the social and cognitive environment of the dispute, including disputant preferences to control their own outcomes (Thibaut and Walker, 1975) and perhaps the way in which arbitrated outcomes are cognitively framed by the disputants (Tversky and Kahneman, 1981) act to produce the effect.

A second generalization is that the circumstances of the dispute, the nature of the third party's intervention, and the orientation and motivation of the intervenors all make a difference in the receptivity of the bargainers to intervention, how the bargainers will behave in anticipation of the intervention, and in how effective the actual intervention can be. Rubin (1980) notes that if the parties feel that they can solve the conflict by themselves, they will resent and attempt to avoid third party intrusion. LaTour et al. (1976a) emphasize that the greater the pressure of the conflict, the more power the bargainers wish to hold for themselves. Thomas (1976) notes in this regard that arbitration is a two-edged sword, having the advantages of terminating deadlocks, preventing escalations, and producing occasional integrative solutions to conflicts, but having the disadvantages of promoting competition, not reducing hostility, and diffusing responsibility for the outcomes of negotiation. Mentschikoff and Haggard (1977) warn that the choice of arbitrator is very important, and provide a list of procedures for commercial arbitration to aid in effective choosing.

REPRESENTATIVE BARGAINING

Representative bargaining is a situation where the original disputants are joined by co-negotiators who advise, partake in, or substitute for the original parties. Much of the work on representatives in bargaining stems from a theoretical formulation by McGrath (Vidmar and McGrath, 1970; Morley and Stephenson, 1977; Klimoski, 1978) called the Tripolar Model. In this model, three forces are presumed to act upon bargaining representatives. First are R-forces, or *role obligations*. The bargainer as representative has role obligations to be the honest conveyer of the interests of his constituency. To the extent that he is himself a member of that group, or identifies with that group because of similar situations or attitudes, R-forces will be high. Second are A-forces, or attraction for the position of the *antagonist*. That is, the representative will find attractive features of the opposite negotiator, perhaps because they share professions or codes of ethics, which will lead him towards accommodating that other's position. Finally, there are C-forces, or *community pressures* both towards settlement and on specific outcomes of that settlement. Some of the audience-effect studies cited earlier (Koch et al., 1976; Meeker and Shure, 1969; Vidmar, 1971) grow out of consideration of C-forces or analogous concepts.

Because the R-forces are presumed to be the strongest of the three, and probably because they are the easiest to manipulate in the experimental laboratory, most studies have concentrated on the effects of altering the strength of the association of the bargaining representative and his constituency. Most of these manipulations have had the characteristic of preventing the representative from responding spontaneously to his opponent (Druckman, 1977), for example, by varying accountability, the method of his appointment, his independence, the strength of the role obligations, or the amount of surveillance by the constituent.

Early results on the differences between representative and own-interest bargainers was mixed. Druckman (1967), in a labor/management simulation, found no differences in bargaining tactics when labor bargainers were union (representing other workers) or non-union

(representing only themselves) workers. Thibaut (1968), on the other hand, found that undergraduates could be induced to bargain competitively in a bilateral monopoly task if they were grouped in "double dyads," or pairs of bargainers, one the representative and the other the constituent; this finding was a serendipitous outgrowth of a problem that occurred when the subjects did not become involved in the task while bargaining singly. Vidmar (1971), cited earlier, attempted to induce negotiator representative role obligations by having subjects negotiate issues rather than discuss them to a consensus, and found that the negotiators were more competitive than the discussants and more amenable to mediation efforts. However, Druckman (1971) argued that Vidmar misunderstood the nature of role obligations in seeing negotiators as representing groups and discussants as only representing themselves. Later research has provided an overall consensus (Chertkoff and Esser, 1976) that representatives are usually tougher and more competitive than self-interested bargainers.

An important qualification of this conclusion is that pressure from the constituent can (through hypothesized R-forces) alter the representative's perspective. Benton and Druckman (1974) had subjects play a reward-allocation game either for themselves or for themselves and a constituent. Those playing for a constituent (experimental stooge) were further given instructions from the constituent to be cooperative, competitive, or were given no information. Results indicated that the representatives were in general more competitive than bargainers without constituents, but this tendency was modified by a tendency to follow the stance advocated by the constituent. Chertkoff and Esser (1976) cite other studies showing similar results.

Strengthening the degree of association of the representative to the constituency increases the toughness and competitiveness of the bargainer (Brown, 1977). This association can be strengthened in many ways. Benton (1972) varied the degree to which individuals representing their constituency were accountable for their actions, and found an increase in competitiveness in accountable representatives. Additionally, these bargainers were more likely to settle for a small share of the outcome than refuse to reach an agreement. Similar findings are reported by Klimoski and Ash (1974), Pruitt et al. (1978), and are summarized by Brown (1977).

If representatives are elected instead of randomly selected or appointed by experimental fiat, then the association of representative to constituency is strengthened. Lamm (1978) verified in a version of a bilateral monopoly game that indeed elected representatives bargained more competitively than appointed ones. This led to less accommodation between bargainers so that the constituents able to choose their representatives were actually worse off on the average than constituents whose representatives were forced upon them. Klimoski and Ash (1974) found an interaction between mode of representative selection and accountability. Spokesmen with the least R-force imposed upon them, by virtue of random selection and having no accountability, showed the fewest deadlocks, tended to reach agreement at a faster rate, and in general had little difficulty in finding amicable resolutions to their conflicts. On the other hand, randomly selected spokesmen who were accountable had a great deal of difficulty. Elected spokesmen did not differ on the dimension of accountability, and produced bargaining results near those of the accountable randomly selected spokesmen. Although these findings were unexpected by Klimoski and Ash, they do fit in with the McGrath Tripolar Model if one assumes that election invokes a quantity of responsibility to the constituency which is not appreciably augmented by the addition of accountability. Again, the paradox of the harmful effects of responsible representatives on the outcomes of the constituents was noted.

A third way to induce R-forces is to make the behavior of the representative available to the constituent. Wall (1978) showed that a representative bargaining independently makes more concessions than one whose constituent supervises the bargaining, while Pruitt et al. (1978) showed that surveillance led to impressions of toughness, less willingness to make unilateral concessions, reduced exchange of information between the negotiators, and reduced the common identification between negotiators. All in all, a consistent picture emerges where one's best advice after hiring a representative is to go home and not interfere.

Pruitt et al.'s (1978) last-mentioned finding refers to A-forces, where representatives with stronger R-forces have their corresponding identification with their opposing numbers reduced. In general, consideration of the A-forces has not been very much studied, and largely belongs to British social psychology (but see Adams, 1976). Stephenson et al. (1977) reported that over time, negotiators became less affiliated with their party (R-force) and more with the other negotiator (A-force). This resulted in a reduction in conflict with time, and movement towards settlement.

Morley and Stephenson (1977) experimentally manipulated A-forces by having subjects play a labor/management simulation either under informal (face to face) or formal (over telephone lines) communications. They hypothesized that the telephone communication would lead to a lesser number of cues available to invoke A-forces. Their hypothesis that settlements in favor of the side with the stronger case would be more likely with a formal communication system was verified.

C-forces, although important, have not been experimentally studied, largely because community norms tend to be a constant within a subject population. Cross-cultural studies provide one vehicle by which they may be examined. For example, Sullivan, Peterson, Kameda, and Shamada (1981) examined American and Japanese managers' preference for dispute resolution procedures. They found that while the Americans did not express a preference, Japanese managers preferred a system of mutual conferral to resolve a joint venture trade dispute if a Japanese had ultimate authority, but preferred binding arbitration if an American was in charge. This was seen as an acceptance by the Japanese, but not the Americans, of a prominent stereotype that Japanese prefer to avoid conflict by circumventing it before it grows out of proportion, but Americans prefer to face conflict head-on and resolve it directly.

The most ambitious attempt to assess the Tri-Polar Model is a study by Vidmar and McGrath (1971). In a first study, fraternity leaders and leading anti-fraternity men were given the task of jointly constructing a statement on the relative advantages and disadvantages of different types of university housing. Additionally, they were given extensive questionnaires assessing attitudes towards their own reference groups

(R-forces), the other negotiators (A-forces), and the neutral third party commissioning the task (the Dean of Men's office). They also were asked to assess the acceptability of their final product to all three relevant bodies. Results showed that the R-forces accounted for the largest share of the variance of the outcomes and that the other forces were small, but nonzero. A second, better designed study, based on curriculum reform instead of housing, with better defined and less purely antagonistic groups, was able to establish significant regression slopes for all three forces, although the R-force was still slightly the strongest.

Representativeness has also been studied in the procedural justice research program of Thibaut and Walker (1975). The preference for style of third party intervention work cited earlier was extended to a comparison of analogues of the American adversarial judiciary system and the Western European inquisitorial one. Such a comparison is one of representation as well as third-party intervention, since the salient difference is whether it is the judge or the representatives of the disputing parties who have the primary responsibility for presenting the evidence to be used in deciding the case. A recent report by Houlden, LaTour, Walker and Thibaut (1978) gives a good flavor of both the substance and conclusions of that research program.

Subjects were told that they would role-play the parties to a will contestation, where they were the sons of a recently deceased farmer who left all of his property to the son who had left home and none to the son who stayed to help build up the farm. Each side was given the scenario, plus a list of arguments that could be mustered to support their respective positions. The experimental manipulations concerned third-party control over the procedures of the contest and third-party control over the decision. Procedural control was having either the third party choose what facts he wished to know vs. allowing each side to present its own case. Decision control was allowing the third party to be an arbitrator vs. a mediator.

In addition, the same experiment was run with a group of law students, who were induced to have the role of the third party instead of one of the disputants, and who additionally were told to adopt a stance towards the problem that was either equitable (where the sons

receive outcomes corresponding to what they deserve), or legalistic (where the father's wishes were carried out as closely as possible). The subjects acting as third parties were not given the arguments supplied the disputants. The hearing was never held in any instance, but instead subjects were questioned the extent to which they felt that the proceedings would be equitable, legal, or to the subjects' liking.

The results showed that subjects perceived low third party process control (adversarial style) to favor equity, and high process control (inquisitorial style) to favor legalism. In general, subjects preferred high to low decision control; this was more pronounced for subjects taking an equity orientation, who believed that decision control was a critical factor in producing equity. Litigants arguing for equity (the farming son) greatly preferred low to high process control, while litigants arguing for legalism (the prodigal son) expressed milder preferences, but in the same direction. Houlden et al. had predicted that prodigal sons would prefer high process control, but apparently the overall strong American norm for adversarial procedures (LaTour, Houlden, Walker, and Thibaut, 1976b; Thibaut and Walker, 1975) prevailed.

The study demonstrates that the concept of third-party control can be divided meaningfully into process and decision components, each of which acts independently of the other. While disputants are willing to assign a judge, jury, or arbitrator decision control over their fates, they reserve for themselves or their representatives the task of presenting the evidence upon which the third party will decide.

Summary

The folklore is that representatives negotiating a dispute are more likely to find a common agreement, because they can focus on the issues and not become involved in the emotional and other tangential entanglements that surround the dispute. However, the evidence from experimental bargaining studies shows that the folklore may not be accurate. Representatives are themselves negotiating within a context of social forces, many of which are not conducive to collaboration, accommodation, or compromise. Moreover, turning negotiations over to a representative can result in a loss of control over outcomes by a

disputant, an eventuality that is generally avoided if possible. In general, representative negotiators probably function best when their goals and procedures are a result of extensive consultation with the disputant, but when they can negotiate with opposite representatives without the disputants directly monitoring their actions.

MULTI-ISSUE BARGAINING

The last main topic to be considered in this paper is multi-issue bargaining. Morley and Stephenson (1977) note that bilateral negotiation tasks fit into one of three types. First is when a single negotiation issue based on two or more dimensions is negotiated. This is the basic type that was used by Siegel and Fouraker (1960) and is illustrated in Table 1. Second is a one-dimensional exchange, where the transaction is zero-sum given that the players do conclude a deal, and the mixed motive nature of the task comes from the fact that both parties lose if no transaction is concluded. Thibaut (1968), and most studies that were interested in personality and other subject-characteristic variables have employed this type, which is decidedly not subtle. Finally is the third type, in which a number of issues are bargained simultaneously, each on one dimension. Typically, the tradeoffs within each dimension do not precisely correspond, so that the maximum joint profit is not obtained by splitting equally or centrally on all of the issues. Such a task, already extensively discussed as it was employed by Pruitt and his co-workers, Druckman's work, and the work of Tietz and Weber, is what we mean by multi-issue bargaining.

When bargainers evaluate the worth of several issues, problems of measurement appear. Greenhalgh and Neslin (1981) note that simple addition of a bargainer's utility for the different components of a negotiated package may not provide a true assessment of the bargainer's evaluation of the package because of dependencies among the components. They recommend conjoint analysis as an alternative technique. In their paper, they demonstrated the practicability of conjoint analysis in a simulation of labor management negotiations. Tversky and Kahneman (1981) present data suggesting that there is a "framing" bias in the evaluation of packages that goes beyond the dependencies among the

components (see also Bazerman and Neale, 1983). Tversky and Kahneman show that when decisions are made about components of an uncertain package on an item-by-item basis, the resultant package may be inferior to an alternative package. When the direct comparison between complete packages is made, decisionmakers switch preferences to the better choice.

Empirically, bargaining conflicts with multiple issues have been both easier and harder to resolve than those with single issues. On the one hand, the greater number of issues can cause an increase in the amount of time needed to resolve the conflict (Rubin and Brown, 1975), and is a cognitively more difficult task for the negotiators. Bartos (1974), for example, conducted a complicated multi-issue, multi-person international relations simulation in which five "countries" negotiated five different issues. Pilot testing revealed that the incidence of "erroneous" play on the part of subjects was high, due to arithmetic mistakes and misunderstandings, so he reconstructed the task, reformatting the five issues with two choices each into one large issue with 32 possible outcomes. This, Bartos found, was easier for the subjects to comprehend.

On the other hand, multi-issue bargaining can serve to show the way to resolutions of conflict that at first hand appear irreconcilable. Walton and McKersie (1965) and Pruitt and Lewis (1977) both view the extension of a dispute to more issues as a way of reframing the dispute from purely distributive (i.e., an allocation of a fixed sum between the disputants) to integrative (i.e., a bargaining context in which the joint maximum gain is a concern). It is easier to concede on one issue when your opposite is simultaneously conceding on another issue; in this way the bargainer's paradox may be averted. Thus, under some circumstances, it might be desirable to complicate matters by adding more issues to the negotiations.

Few studies have systematically varied the number of issues. Instead, interest is on how the various issues in multi-issue negotiations are handled. Kelley (1966) had a class studying group behavior engage in a semester-long bargaining project. Bargainers were split into negotiating pairs, each of whom played an extended bilateral monopoly game involving five separate issues. Each party knew only its

own outcome on each issue, the issues were of different importance for the two individuals, and within each issue, any gain for one player was a loss for another. Incentive to maximize points was created by threatening to base course grades in part on amount earned (a threat not carried out). Over the course of the semester, bargaining pairs completed six sessions of dyadic bargaining; each session began with a recombination of the students so that a player never bargained with the same person twice. Different payoff tables were used to avert falling into a pattern.

Several trends emerged over the six sessions that are indicative of a growth by the subjects towards efficient bargaining. First, players learned that, contrary to single-issue negotiating and even some experimental results of other studies, concessions were best expressed as not firm but tentative, and a player could even make a "negative concession" on one item if he simultaneously made positive concessions on others. That is, there was a general tendency to avoid early commitment to a position, and maximum flexibility was desirable. Over the six sessions, the percentage of bargainers who presented more firm offers in the latter half of their proposals than in the first half increased from 27 percent to 64 percent. Thus, while single-issue negotiations might be characterized by a gradual spiralling of offer and counter-offer to a settlement, multi-issue negotiations show nonmonotonic patterns over time.

A second trend was that bargainers moved from considering the issues one at a time to packaging them together. The percentage of dyads reaching definite agreement on a single issue before the others was 64 percent for the first session, 25 percent for the second, and 9 percent (one dyad) for the third. Correspondingly, the percentage of dyads refusing to make any definite agreement until all five issues were resolved rose from 23 percent on session 2 to 77 percent on session 6. Thus, with more experience, the bargainers integrated their issues into a single package that (the data showed) raised the joint gain, even though players were ignorant of the others' preference orderings.

Kelley (1966) allowed the bargainers free rein in deciding how to conduct their bargaining; Froman and Cohen (1970), on the other hand, experimentally manipulated the process by which multiple issues could be

resolved. Their subjects played a four-issue game under one of two conflict resolution rule structures. In the first condition, all communications had to specify a single issue, on which a player could make an offer, make a counter-offer or agree to an offer. In the second condition, players could communicate offers, counter-offers, or agreements on any or all of the issues in one communication. The first condition was termed "compromise" bargaining, while the second was termed "logrolling," following the political practice of trading issues for mutual benefit. Froman and Cohen showed that on a variety of dependent measures, the logrolling rules resulted in superior outcomes to the players: Pareto optimal outcomes were obtained more often, the average joint gain was higher, and players took less time to achieve a settlement. Similarly, Subbaro (1978), in a study discussed above, showed that FOA-I was preferable to FOA-P on a number of measures.

Yukl et al. (1976) replicated and extended these findings. A bargaining task was performed under compromise or logrolling rules, or in the absence of any specification. Moreover, players were either put or not put under time pressure to achieve a settlement. The joint payoff was lowest under the compromise rules; logrolling and no-rules players both in fact used issue-tradeoffs to achieve their high outcomes. Time pressure did not interact with issue-order rules, but did result in faster but poorer settlements for players fighting the clock.

Tietz and Weber (1978), reporting on the same data as Weber and Tietz (1978), carefully scrutinized multi-issue data in light of several theories of bargaining. They found that the explanatory power of all theories decreased when applied to the multiple issue case, as bargaining activity increased and the variation in outcomes expanded. They concluded that theories based on level of aspiration models were superior, as these theories correctly predicted less exploitative and more compensatory solutions. Put another way, the outcomes of multi-issue negotiations are less predictable than those of single negotiation outcomes, but are also more accommodative and less competitive.

Pruitt and Lewis (1977) summarize an extensive research program on integrative bargaining in Pruitt's laboratory in which a Buyer and Seller in a wholesale market must agree on prices for three commodities:

iron, sulphur, and coal. The commodities have differing importance for the two bargainers so that the joint maximum profit is to choose the best option for the Buyer for iron, and the worst option for Buyer for coal (sulphur is constant-sum). The bargainers are, as always, bilateral monopolists, and cannot go or threaten to go elsewhere if the deal is not to their liking. Although their major interest is not in the specific interactions among the multiple issues, but in strategies bargainers use in negotiation, they did replicate the earlier findings that flexibility bargaining strategies, while not relaxing high levels of aspiration, led to sufficient information exchange and integrativeness so that high outcomes were obtained.

Finally, we return once more to Thibaut and Walker's (1975) project, and a study by Erickson et al. (1974) that examines multiple issue in a simulated pretrial conference setting. In this experiment, advanced law school students and recent law school graduates acted as attorneys to two brothers dividing up property they had inherited as tenants in common. The property was in five separately partitionable pieces, each of which could be divided one of ten ways. The importance of the tracts to each brother differed, as did the total worth of each. Each subject had only his own outcome table. For half of the subjects, the case was one of high conflict, such that tracts of importance to one brother were also important to the second. For the other half, there was low conflict, as the brothers prized different pieces of the property. The other two experimental manipulations were in the judge's instructions. For half of the pairs, the judge began the conference by leading the participants through an analysis of the issues, emphasizing the range of values for the various tracts, and in the process making the subjects aware of the degree of conflict between them. For the other half, no such analysis was performed. In the third experimental manipulation, half of the subjects received a holistic set from the judge, who urged that the case be discussed as a whole and that a package deal would be preferable. The other half were told to discuss the tracts one at a time. Subjects then had 25 minutes to attempt a settlement.

Results showed that more cases were settled in the holistic rather than the issue-by-issue set, and for the subjects with identified issues, for low as opposed to high conflict. This latter finding is somewhat suggestive that bargainers who don't know that they are in high conflict may not bargain as if they are; information is not always beneficial. Similarly, holistically-oriented bargainers obtained a higher joint profit, and this difference was more pronounced for low conflict than for high conflict bargainers.

Summary

The evidence shows that the common step-by-step elimination of issues at pretrial conferences may be counterproductive. Even when the various issues are not interdependent, settlements in the form of packages produce higher joint gains at less stress to all parties. This finding holds for situations of relatively low conflict, but is also true in high conflict situations. However, as the number of issues to be settled increases, the potential for misperception of the value of a settlement by a bargainer also increases; this suggests that adding issues for the sake of facilitating agreement could be both a help and a hindrance.

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